

9. PERFORMANCE ASSESSMENT TOOLS

“GREENING OUR U.S. EMBASSIES”  
Measuring and Reporting Compliance with EO 13423  
and Other Federal Mandates - Agencies with Large  
Portfolios

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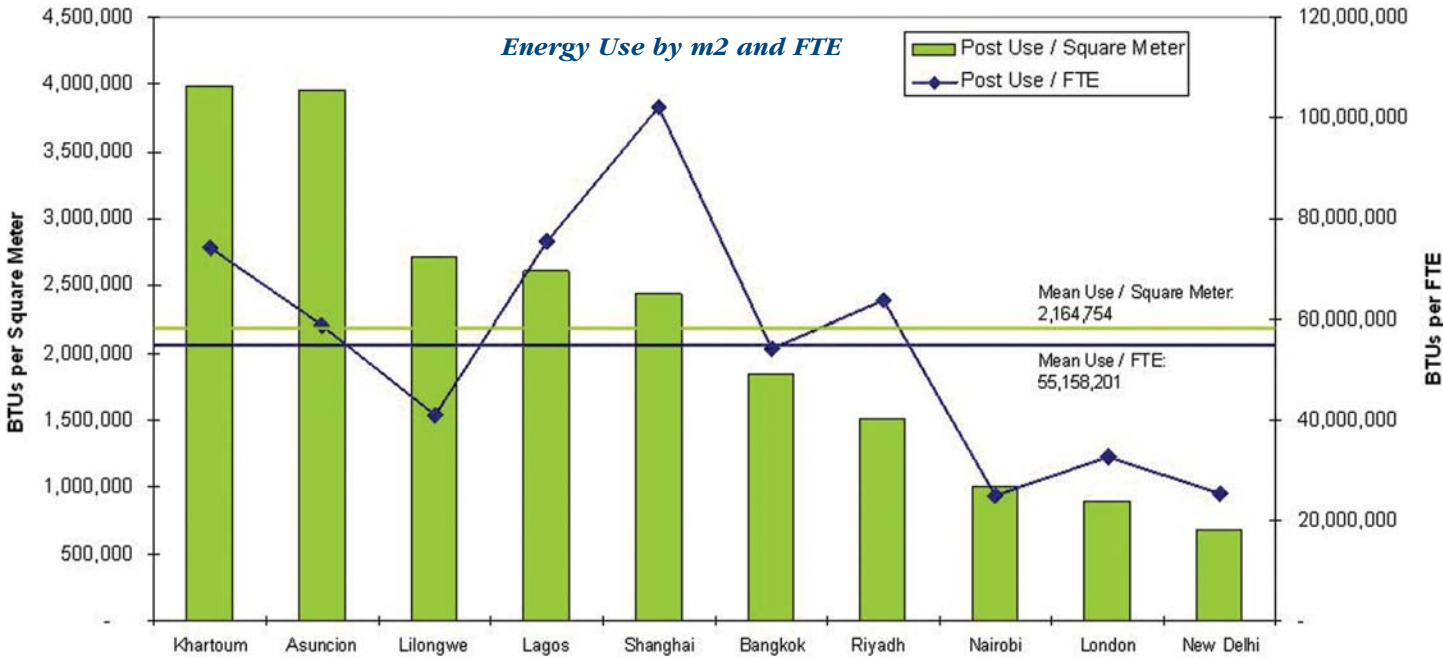
Recent Federal mandates such as the Energy Independence and Security Act (EIS Act) of 2007, Executive Order (EO) 13423 - Strengthening Federal Environmental, Energy, and Transportation Management and the Federal Leadership in High Performance and Sustainable Buildings – Memorandum of Understanding (MOU) all call for the measurement and reporting of energy and water use by Federal buildings.

Many agencies are struggling to benchmark their facilities and comply with the targets set by these new mandates, and those agencies with large and diverse portfolios are particularly challenged. The Department of State is one such agency.

The Department of State's Overseas Buildings Operations Bureau (OBO) manages Federally owned and leased property in over 257 locations around the world in over 18,000 buildings totaling over 117 million square feet, in a very diverse set of building types ranging from embassies, consulates, and residences to warehouses and wastewater treatment plants. OBO established the Energy and Sustainable Design Program (GreenTeam) as a catalyst for compliance with the aggressive energy targets set by EO 13423 and EIS Act, such as 30 percent use reduction by 2015 and 100 percent by 2030.

**How to begin?** Create a tool to collect, store, and report on the portfolio.

**Title IV – Energy Savings in Buildings and Industry, Subtitle C – High Performance Federal Buildings, Section 432 – Management of Energy and Water Efficiency in Federal Buildings** of EIS Act, signed by President Bush on December 19, 2007, requires web-based tracking systems be used for monitoring compliance status. While many agencies may choose to use the Energy Star® Portfolio Manager to fulfill this requirement, OBO has developed its own database linked to the Real Property Database through building identification numbers, for



the purpose of identifying problem areas and for prioritizing of projects. To better understand energy expenditures and issues of sustainability within OBO's portfolio, a worldwide Sustainability Survey for fiscal year (FY) 2007 was conducted that included a myriad of questions ranging from reporting utilities' consumption and cost to issues of indoor air quality, recycling, and site flooding and erosion. Information will be gathered annually and deposited into the database. The FY 2007 report revealed which posts are using the greatest amount of energy and water and which are paying the most per BTU (British Thermal Unit) and per liter. The report shows consumption according to the number of square meters (m2) being supported and by the number of Full-Time-Equivalents (FTE) supported. These measures give OBO benchmarks, similar to those of Energy Star® Portfolio Manager, indicating which posts are above or below the mean use and cost. (See Chart above.)

**How to measure?** Individual building metering of utilities is required.

Section 432 of EIS Act requires that

75 percent of each agency's facilities be evaluated for energy and water use. This is to be accomplished on a rolling calendar with 25 percent evaluated each year. For OBO this translates to 193 posts (75 percent of 257) and 48 posts per year (25 percent of 193). Many of OBO's compounds have multiple buildings with only one meter. Section 103 of the Energy Policy Act of 2005 requires individual building metering for all utilities to support accurate reporting for EO 13423 and EIS Act. OBO is initiating a systems metering program to increase building metering worldwide.

**How to fund improvements?** Funding doesn't have to come from capital appropriations.

Section 432 of EIS Act specifically states that private financing through Energy Savings Performance Contracts (ESPC) or Utility Energy Service Contracts (UESC) are acceptable funding options. ESPCs allow private companies to pay for the project's first cost and be reimbursed through the savings realized from the success of the project over a period of time. Once the project is paid for, then the owner

reaps the benefits of the savings directly. ESPCs have been used by OBO for a decade, on such projects as:

- **Mexico City** (\$578,000 lighting 1999) nine-year contract completed in 2006;
- **Seoul** (\$12,500,000 geothermal 2001) 19-year contract required \$750,000 buy-down;
- **Santo Domingo** (\$721,000 lighting 2005) 10-year contract; and
- **Dhaka** (\$725,000 gas turbine generators 2007) 11-year contract.

Implementing this type of contract overseas has the unusual obstacles of exchange rate fluctuations, utility rate instability, and bi-annual rotations in posts' management. The Department of Energy's Federal Energy Management Program (DOE/FEMP) offers agencies support with ESPC development and use of their pre-competed, indefinite quantity contractors specifically approved as energy service companies. OBO is looking to substantially increase the use of ESPCs to meet the targets of the Federal mandates. ■



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